CLAIMS:

1. A luminaire comprising a housing suitable for accommodating at least one light source for emitting a light beam through a light-transmitting plate of the housing, characterized in that a diffuse reflective coating is provided on an inner side of said housing, the diffuse reflective coating having a water-based solvent and a binder based on a polymer having the following structural formula:

$$-[-CR^1R^2-CR^3R^4-]-$$

wherein R^1 comprises an element chosen from the group Br, Cl, I, F, H, wherein R^2 comprises an element chosen from the group Br, Cl, I, F, H, or an alkyl group, wherein R^3 comprises an element chosen from the group Br, Cl, I, F, H, or $COOCH_3$, and wherein R^4 comprises an element chosen from the group Br, Cl, I, F, H, OH, or vinylether.

2. A luminaire according to claim 1, wherein said structural formula contains at least 30% by weight of the group Br, Cl, I, F, or $COOCH_3$.

3. A luminaire according to claim 1 or 2, wherein the solvent comprises at least 80 % by weight of water.

4. A luminaire according to claim 1, 2 or 3, wherein the diffuse reflective coating is applied as a back reflector on the inner back surface of the housing.

5. A luminaire according to claim 4, wherein the diffuse reflective coating reflects more than 90%, particularly more than 95% of normally incident light thereon.

6. A luminaire according to any of the preceding claims 1 through 5, wherein the diffuse reflective coating is cross-linked with a polyisocyanate compound.

7. A luminaire comprising a housing suitable for accomodating at least one light source for emitting a light beam through a light-transmitting plate of the housing, characterized in that said housing is provided with a diffuse reflective coating having a binder on the basis of organically modified silane of the sol-gel type, wherein said diffuse reflective coating is applied as a diffuser on the light-transmitting plate.

8. A luminaire according to claim 7, wherein said organically modified silane has the following structural formula:

$R^{I}Si(OR^{II})_3$

wherein R^{I} comprises an alkyl group or an aryl group and wherein R^{II} comprises an alkyl group.

9. A luminaire according to any of the preceding claims 1 through 6, wherein the diffuse reflective coating is applied as a diffuser on the light-transmitting plate.

10. A luminaire according to claim 9, wherein the diffuse reflective coating transmits more than 60 %, particularly more than 70 % of normally incident back light thereon.

11. A luminaire according to claim 9 or 10, wherein the diffuse reflective coating is provided with a layer that blocks ultraviolet light.

12. A luminaire according to claim 11, wherein said layer is applied on one side and/or both sides of the diffuse reflective coating and/or within the diffuse reflective coating.

13. A luminaire according to claim 11 or 12, wherein said layer comprises a metal oxide chosen from the group of ZnO, M_2O_3 (M being B, Al, Sc, La or Y) and MO^2 (M being Ce, Ge, Sn, Ti, Zr, or Hf) or a metal phosphate chosen from the group of $M_x(PO_4)_n$ and $M_x(PO_3)_n$ (M being an alkali metal, an earth alkali metal, Al, Sc, Y, La, Ti, Zr. or Hf).

14. A luminaire according to any of the preceding claims 1 through 13, wherein the diffuse reflective coating comprises calcium halophosphate, calcium pyrophosphate, $BaSO_4$, MgO, YBO_3, TiO_2, or Al_2O_3 particles.

15. Device with an LCD screen having a luminaire according to any of the preceding claims 1 through 14.

16. Ceiling element or wall element having a luminaire according to any of the preceding claims 1 through 14.